



# 1N5820 THRU 1N5822

## SCHOTTKY BARRIER RECTIFIER

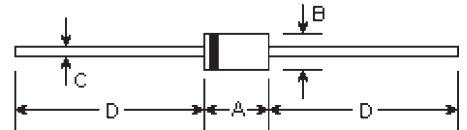
Reverse Voltage - 20 to 40 Volts

Forward Current - 3.0 Amperes

### Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability
- Guardring for overvoltage protection
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3Kg) tension

### DO-201AD



### Mechanical Data

- **Case:** DO-201AD molded plastic body
- **Terminals:** Plated axial leads, solderable per MIL-STD-750, method 2026
- **Polarity:** Color band denotes cathode end
- **Mounting Position:** Any
- **Weight:** 0.041 ounce, 1.15 grams

DIMENSIONS					
DIM	inches		mm		Note
	Min.	Max.	Min.	Max.	
A	0.283	0.374	7.20	9.50	
B	0.189	0.208	4.80	5.30	ϕ
C	0.048	0.051	1.20	1.30	ϕ
D	1.000	-	25.40	-	

### Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	Symbols	1N5820	1N5821	1N5822	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	Volts
Maximum RMS voltage	$V_{RMS}$	14	21	28	Volts
Maximum DC blocking voltage	$V_{DC}$	20	30	40	Volts
Non-repetitive peak reverse voltage	$V_{RSM}$	24	36	48	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_L=95^\circ\text{C}$	$I_{(AV)}$	3.0			Amps
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (MIL-STD-750D 4066 method) at $T_L=75^\circ\text{C}$	$I_{FSM}$	80.0			Amps
Maximum instantaneous forward voltage at 3.0A (Note 1) Maximum instantaneous forward voltage at 9.4A (Note 1)	$V_F$ $V_F$	0.475 0.850	0.500 0.900	0.525 0.950	Volts Volts
Maximum instantaneous reverse current at rated DC blocking voltage (Note 1) $T_J=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	$I_R$	2.0 20.0			mA
Typical thermal resistance (Note 2)	$R_{\theta JA}$ $R_{\theta JL}$	40.0 10.0			$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +125			$^\circ\text{C}$

Notes:

(1) Pulse test: 300uS pulse width, 1% duty cycle

(2) Thermal resistance from junction to lead vertical P.C.B. mounted, 0.500" (12.7mm) lead length with 2.5X2.5" (63.5X63.5mm) copper pads

## RATINGS AND CHARACTERISTIC CURVES

FIG. 1 - FORWARD CURRENT DERATING CURVE

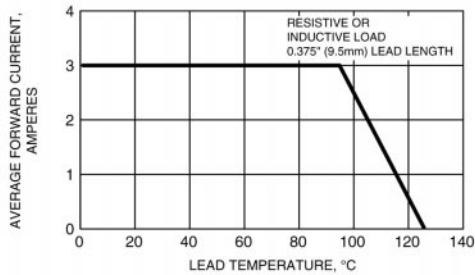


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

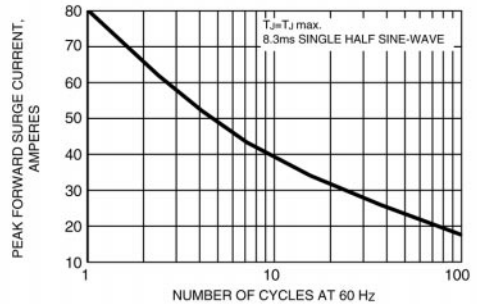


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

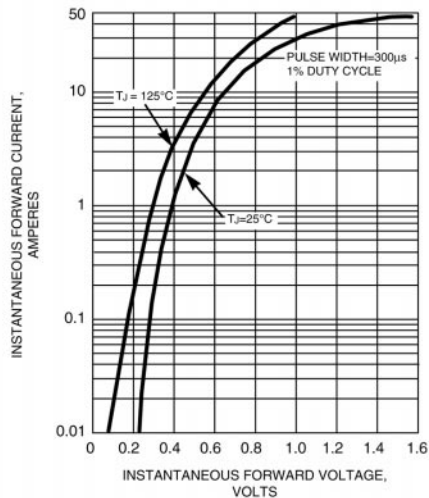


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

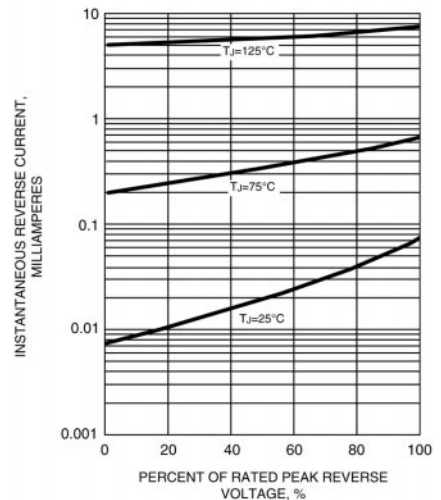


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

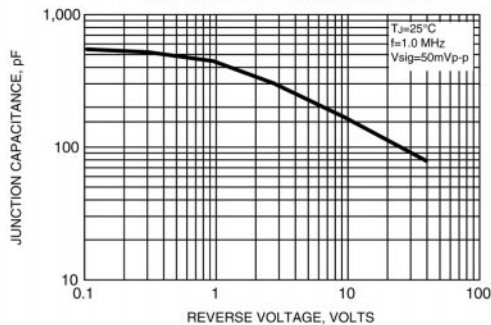


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

